

# Evaluating Performance

## Assessment

Are we meeting expectation

- ❖ **Performance assessment** is the evaluation stage of quality management. Measurement data have been gathered and now must be reported and analyzed.
- ❖ If an organization constructs measures carefully, collects accurate data, and reports results in a meaningful way, it produces information useful for decision making.

# Evaluating Performance

## Assessment

Are we meeting expectation

- ❖ **Assessment** involves judging or evaluating measurement data for the purpose of reaching a conclusion.
- ❖ **Judgment** is formation of an opinion after consideration or deliberation.
- ❖ **Measurement** results are compared with performance expectations to judge the quality of patient care and business services.

# Evaluating Performance

## Assessment

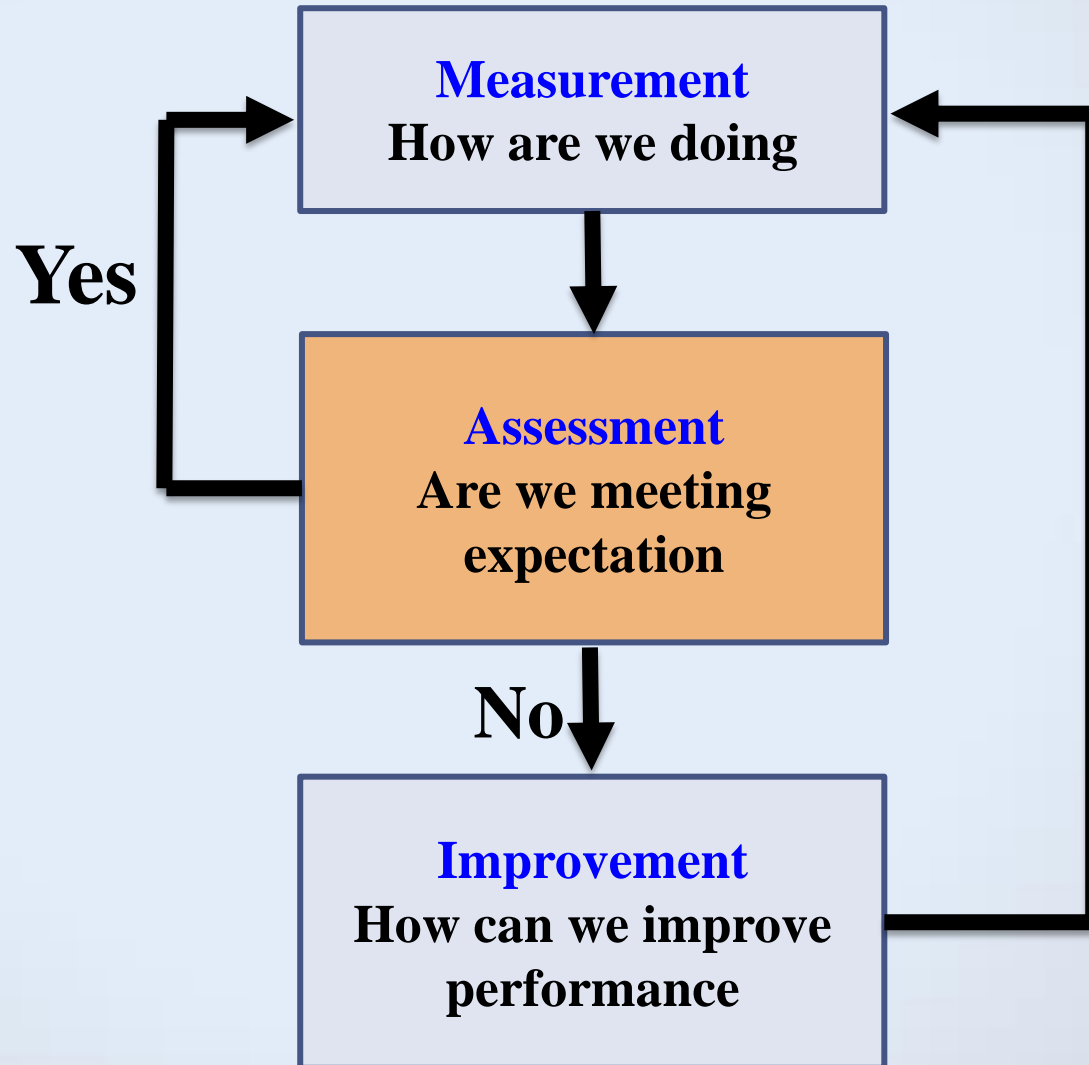
Are we meeting expectation

## Assessment in Quality Management

As shown in Exhibit 4.1, the assessment step follows performance measurement. In this step, the organization **first** judges whether its performance is acceptable. If it is acceptable, the organization continues to measure performance to ensure it does not deteriorate. If its performance is not acceptable, the organization advances to the improvement step.

# The quality management cycle

Exhibit 4.1



# Evaluating Performance

## Assessment

Are we meeting expectation

## Assessment in Quality Management

**Second**, the organization evaluates measurement results to determine whether processes are performing as expected.

**Finally**, it assesses those results to judge the impact of improvements.

# Evaluating Performance

## Assessment

Are we meeting expectation

## Assessment in Quality Management

**Assessing quality does not rely on data alone.**

**Performance goals, external factors, and other conditions must be considered when evaluating measurement results.**

# Evaluating Performance

## Medical Care

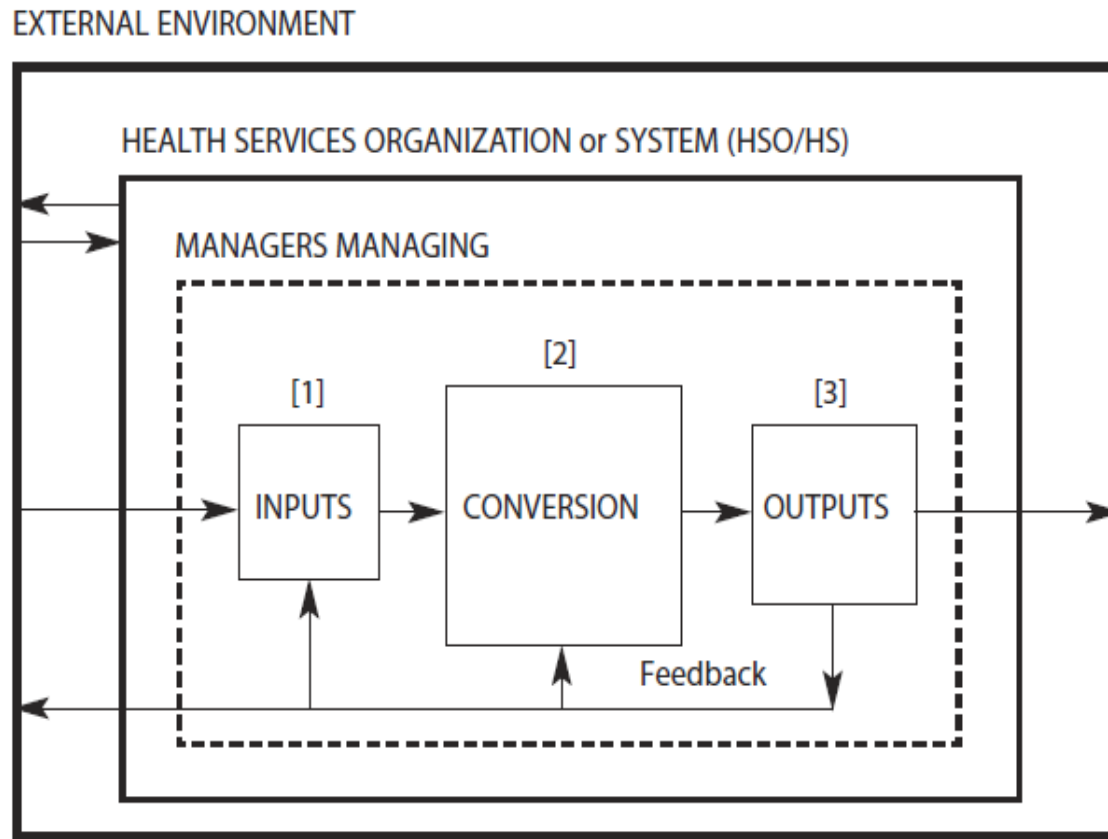
*Medical care is a process or activity in which certain inputs or factors of production (such as doctors' and nurses' services, services of medical instruments and equipment, and pharmaceuticals) are combined in varying quantities to yield an output. Thus HSOs are settings in which **inputs** (resources) are **converted** to **output** (work results and objective accomplishment). Management is the catalyst.*

# Evaluating Performance

## System Theory

- ❖ **A system** is a set of interrelated parts that operate together as a whole to achieve a common purpose
- ❖ **Cybernetic System**, or self regulating system is controlled in order to adjust the future functioning of the system within a predetermined set of standards

# General System Concept



**Figure 5.6.** Management as an input–conversion–output process.

From *Managing Health Services Organizations and Systems* (6th ed., Longest & Darr). Copyright © 2014 by Beaufort B. Longest, Jr., and Kurt Darr. All rights reserved. Permission for figure/table access granted for course use only. Permission required for all other uses (contact [rights@hpp.com](mailto:rights@hpp.com)).

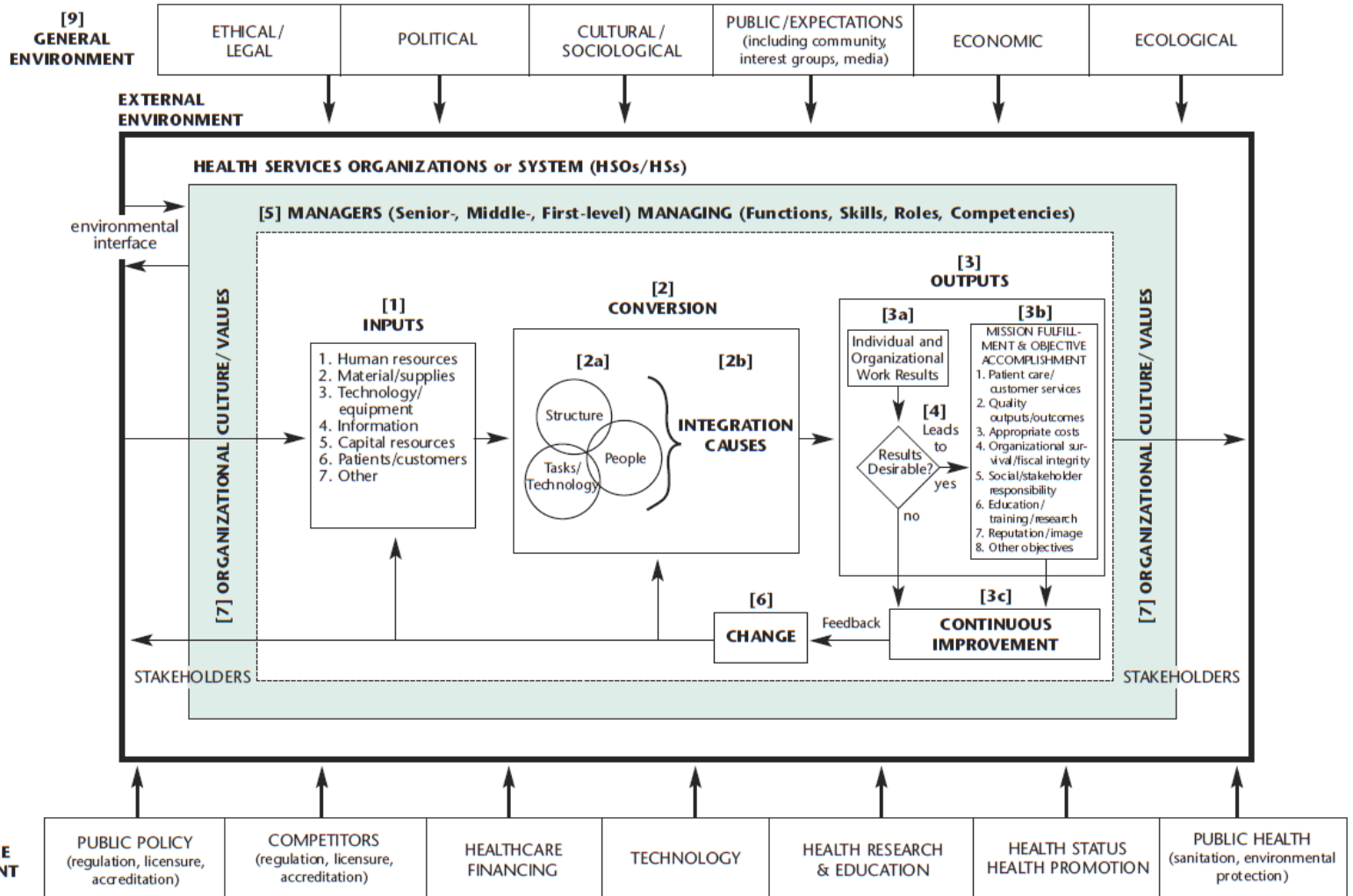
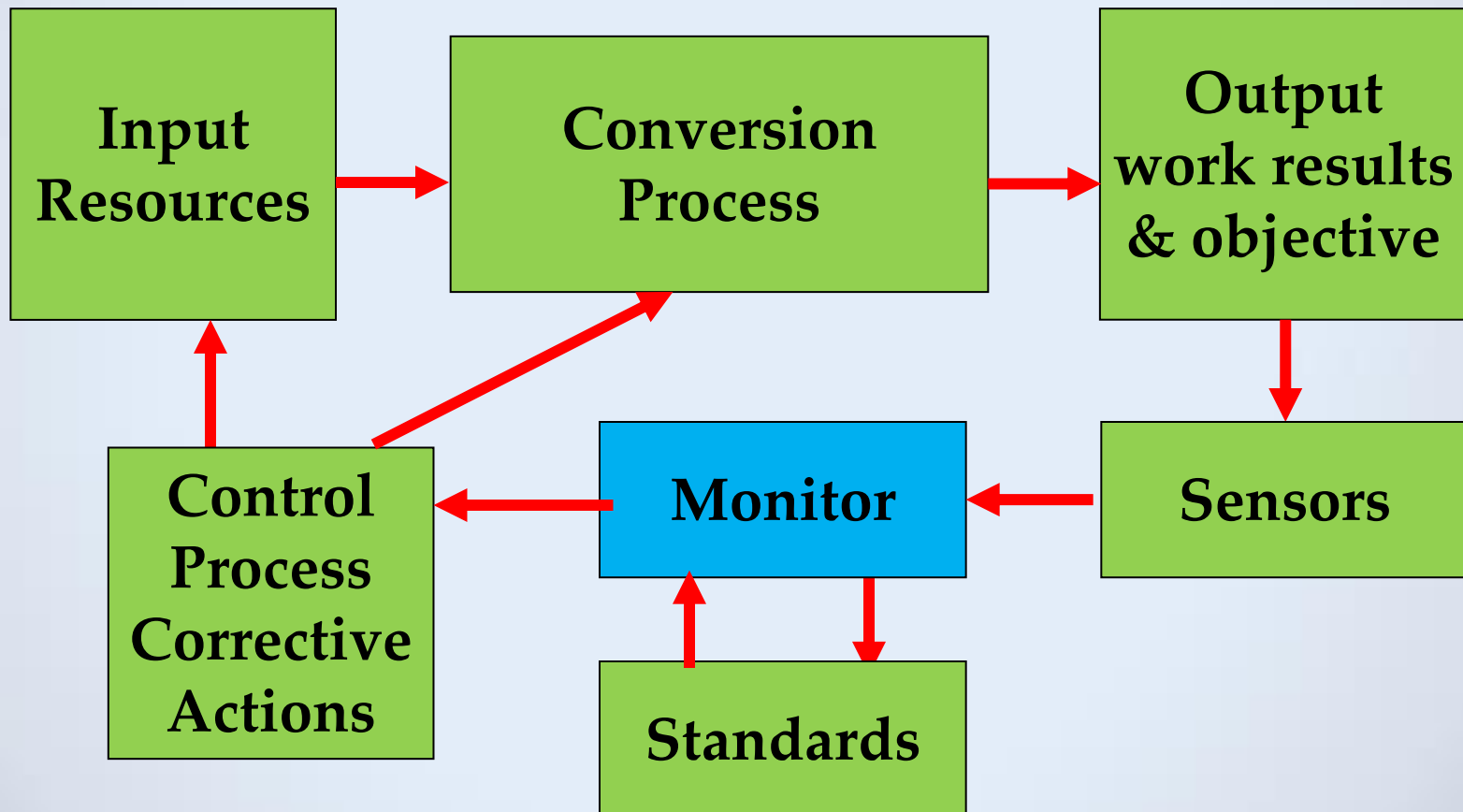


Figure 5.7. Management model for HSOs/HSs.

From *Managing Health Services Organizations and Systems* (6th ed., Longest & Darr). Copyright © 2014 by Beaufort B. Longest, Jr., and Kurt Darr. All rights reserved. Permission for figure/table access granted for course use only. Permission required for all other uses (contact rights@hpp.com).

# Cybernetic System



# Evaluating Performance

## Assessment in Quality Management

The assessment phase in quality management involves **data analytics**, an examination of raw data by which to draw conclusions about that information. This phase involves three activities:

1. **Displaying measurement data**
2. **Comparing actual performance with expectations**
3. **Determining whether action is needed**

# Evaluating Performance

## Displaying measurement data

- ❖ **The first step in analyzing performance data is deciding how the information will be presented or displayed.**
- ❖ **To display data in an understandable format, three factors must be considered:**
  - 1. The type of data to be reported**
  - 2. The audience**
  - 3. The information's intended use**

# Evaluating Performance

## Displaying measurement data

More important than the format in which data are displayed, however, is the **accuracy** and **reliability** of the information to help the audience answers the following questions:

- ❖ What is current performance?
- ❖ Do the data reveal a trend?
- ❖ Should action be taken? What kind of action?

# Evaluating Performance

## LEARNING POINT Reporting Results

**Assessment** involves **judging** or evaluating measurement data for the purpose of reaching a conclusion. The way in which the data are presented influences their interpretation. To display data in an understandable form, **three factors must be considered: the type of data to be reported, the audience, and the information's intended use.**

# Evaluating Performance

## Displaying measurement data

- ❖ **Reporting performance information in the right format is critical to successful quality assessment. In some cases, performance information may be displayed more effectively in a graphic format than in a tabular format.**
- ❖ **Data visualization** is the communication of information clearly and effectively through graphical means.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

Some performance reports provide information collected at a particular point a **snapshot** of time. To create reports that represent these **snapshots**, data are gathered for a certain period and summarized for analysis. Common types of **snapshot** report formats are **tabular reports, pie charts, scatter diagrams, bar graphs, histograms, Pareto charts, and radar charts.**

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **Tabular reports**, sometimes called data tables, are used to display numeric data gathered at a snapshot of time.
- ❖ **Pie charts**, are graphs in which each unit of data is represented as a pie-shaped piece of a circle. Pie charts portray the contribution of parts to a whole.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **Scatter diagrams**, are graphs used to show how two variables may be related. The distribution of their intersecting points reveals relationship patterns. The strength of the correlation is a measure of how likely the two variables are related to each other.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **Bar graphs** are graphs used to show the relative size of different categories of a variable, with each category or value of the variable represented by a bar; also called a bar chart, audiences can easily compare groups of data and quickly assess their implications on performance.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **Histograms**, sometimes referred to as frequency distributions, are bar graphs used to show the center, dispersion, and shape of the distribution of a collection of performance data.
- ❖ **Pareto charts**, are special types of bar graphs that display the most frequent problem as the first bar, the next most frequent as the next bar, and so on; also called Pareto diagrams.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **The Pareto Principle**, named after the nineteenth-century Italian economist Vilfredo Pareto, states that for many events, 80 percent of the results come from 20 percent of the inputs (Juran 1974). Joseph Juran, an originator of the science of quality, applied the Pareto Principle to quality management. Juran advised management to concentrate improvement efforts on the “vital few” sources of problems and not be distracted by those of lesser importance .

# Evaluating Performance

Displaying measurement data

**Snapshot Report Formats**

**When considering the use of Pareto charts, keep the following in mind:**

- ❖ **Use Pareto charts to separate the few major problems (the vital few) from the many possible problems (the trivial many). Pareto charts encourage use of data, not perception, to determine which problems are most important.**
- ❖ **Arrange performance categories or problems according to their frequency (how many), not their classification (what kind). The order should descend from left to right.**

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

**When considering the use of Pareto charts, keep the following in mind:**

- ❖ **The right vertical axis can be used to measure the percentage of total occurrences in each category, but in some situations, the main problems may be apparent without adding a cumulative percentage trend line.**

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **Radar charts**, are graphs used to display the differences between actual and expected performance for several measures; also called spider charts or spider diagrams because of their shape.
- ❖ **Radar charts** are used to plot five to ten performance measures for an interval of time, along with performance expectations.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

When considering the use of **radar charts**, keep the following in mind:

- ❖ **Radar charts** show areas of relative strength and weakness and depict overall performance.
- ❖ In a radar chart, a point close to the center on any axis indicates a low value. A point near the edge is a high value.
- ❖ When interpreting a radar chart, check each axis as well as the overall shape to determine overall performance.

# Evaluating Performance

Displaying measurement data

Snapshot Report Formats

Trend Report Formats

- ❖ **Quality is a dynamic attribute, so the ability to recognize changes in performance trends is important.**
- ❖ **Performance trends, patterns of gradual change in performance; the average or general tendency of performance data to move in a certain direction over time.**

# Evaluating Performance

Displaying measurement data

Snapshot Report Formats

Trend Report Formats

- ❖ **Some of the same report formats used to present snapshots of performance data can also be used to display performance trends; tabular reports are one such format.**
- ❖ **System-level measures, sometimes referred to as a dashboard, this type of report shows a group of performance measures; results for each period; and the performance expectation, or target, for each measure..**

# Evaluating Performance

Displaying measurement data

**Snapshot Report Formats**

**Trend Report Formats**

- ❖ **Line graphs**, sometimes called run charts, can be used to show changes in a performance measurement over time.
- ❖ One **line graph** can be used to report several performance measurement results.
- ❖ To display data effectively, **line graphs** should include no more than four measures.

# Evaluating Performance

Displaying measurement data

Snapshot Report Formats

Trend Report Formats

- ❖ **Bar graphs** can be used to report a snapshot of performance and also display performance data for different periods.
- ❖ This chart is called a **clustered bar graph** because it shows the relationship between three clusters of variables (Exhibit 4.14).
- ❖ **Line graphs** and **bar graphs** are the two most common ways to display performance data over time.

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

- ❖ **Simplicity is the key to reporting performance measurement data, whether for a single period or for many periods. An uncluttered tabular report or graph usually conveys information more effectively than an overly data-laden one does.**

# Evaluating Performance

## Displaying measurement data

### Snapshot Report Formats

Several basic principles should be observed when displaying performance results:

- ❖ **Make sure the data are accurate and no relevant data are omitted.**
- ❖ **Minimize the number of measures reported in one table or graph.**
- ❖ **Ensure that the report is self-explanatory.**
- ❖ **Use clear and concise labels for the report title, period being measured, data legends, and other explanatory information.**
- ❖ **Use legends or keys to explain data that may be confusing or subject to misinterpretation.**
- ❖ **Define abbreviations and symbols.**

# Evaluating Performance

Displaying measurement data

Setting Expectations

- ❖ **Performance measures** should be tied to a pre-defined goal or expectation. Interpretation of measurement results is meaningful only when they are associated with goals.
- ❖ **Measurement** without defined performance expectations does not contribute to **quality improvement**.

# Evaluating Performance

## Displaying measurement data

## Setting Expectations

- ❖ Healthcare organizations must define their destination in terms of performance expectations. Well-defined targets have the following characteristics, known as **SMART**:
  - ❖ **Specific**
  - ❖ **Measurable**
  - ❖ **Achievable**
  - ❖ **Realistic**
  - ❖ **Time-bound**

# Evaluating Performance

Displaying measurement data

Setting Expectations

**Performance expectations** should be established for every measure. These expectations are based in part on internal quality priorities, which are often influenced by the needs of stakeholders (e.g., patients, purchasers).

**Standards** are performance expectations established by individuals or groups.

# Evaluating Performance

Displaying measurement data

Setting Expectations

Except for healthcare services that must comply with absolute standards (such as standards found in government regulations), **performance targets** may be established on the basis of:

- (1) **opinion,**
- (2) **criteria, or**
- (3) **performance comparison.**

# Evaluating Performance

Displaying measurement data

Setting Expectations

**Opinion, Performance targets** may be derived from the **opinion** of those affected by the **measure**. A determination is made regarding the acceptable or desired level of performance, which then becomes the goal.

**This determination is often based on people's subjective belief regarding good performance.**

# Evaluating Performance

Displaying measurement data

Setting Expectations

People often question why **performance targets** are based on **opinion** rather than set at 0 or 100 percent.

Is less-than-perfect performance acceptable?

Arguments supporting the ideal of perfection are difficult to contest, but the **law of diminishing returns** must be taken into consideration when setting performance goals.

# Evaluating Performance

Displaying measurement data

Setting Expectations

**law of diminishing returns**, as any activity is extended, it eventually becomes increasingly difficult to pursue the activity further. For example expanding a given production eventually becomes ever more difficult and eventually will entail increasing **opportunity costs**.

# Evaluating Performance

Displaying measurement data

Setting Expectations

**Criteria**, Performance targets should **not** be established on the sole basis of **opinions** if relevant, professionally defined **criteria** are available. Professionally defined criteria are found in the standards, rules, and principles that have been developed by authoritative groups, such as **clinical practice guidelines**, consensus statements, and position papers.